

#S
Dwight
6-2001

11017 U.S.P.T.O.
09/816909
03/23/01

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Yoh-Han Pao and Zhuo Meng

Serial No.: Not Yet Known (Continuation of U.S. Serial No. 09/562,777)

Filed : Herewith

For : VISUALIZATION AND SELF ORGANIZATION OF MULTIDIMENSIONAL DATA THOUGH EQUALIZED ORTHOGONAL MAPPING

1185 Avenue of the Americas
New York, New York 10036
March 23, 2001

Assistant Commissioner for Patents
Washington, D.C. 20231
Box Patent Application

SIR:

INFORMATION DISCLOSURE STATEMENT

The above-identified application is a continuation of application Serial No. 09/562,777, filed May 2, 2000, which is a continuation of Serial No. 08/991,031, filed December 15, 1997, now United States Patent No. 6,134,537, issued October 17, 2000, which is a continuation-in-part of Serial No. 08/536,059, filed September 29, 1995, now United States Patent No. 5,734,796, issued March 31, 1998.

In accordance with the duty of disclosure under 37 C.F.R. §1.56 in connection with the subject application, applicants respectfully direct the Examiner's attention to the following references which are also listed on Form PTO-1449 attached hereto.

Applicants: Yoh-Han Pao and Zhuo Meng
Serial No.: Not Yet Known (Continuation of U.S. Serial No. 09/562,777)
Filed : Herewith
Page 2

1. U.S. Patent No. 5,003,490 to Castelaz et al., issued March 1991;
2. U.S. Patent No. 5,113,483 to Keeler et al., issued May 1992;
3. U.S. Patent No. 5,200,816 to Rose, issued April 1993;
4. U.S. Patent No. 5,218,529 to Meyer et al., issued June 1993;
5. U.S. Patent No. 5,255,342 to Nitta, issued October 19, 1993;
6. U.S. Patent No. 5,263,120 to Bickel, issued November 1993;
7. U.S. Patent No. 5,293,456 to Guez et al., issued March 1994;
8. U.S. Patent No. 5,311,600 to Aghajan et al., issued May 1994;
9. U.S. Patent No. 5,335,291 to Kramer et al., issued August 1994;
10. U.S. Patent No. 5,337,372 to LeCun et al., issued August 1994;
11. U.S. Patent No. 5,379,352 to Sirat et al., issued January 3, 1995;
12. U.S. Patent No. 5,432,864 to Lu et al., issued July 11, 1995;
13. U.S. Patent No. 5,546,503 to Abe et al., issued August 1996;

Applicants: Yoh-Han Pao and Zhuo Meng
Serial No.: Not Yet Known (Continuation of U.S. Serial No. 09/562,777)
Filed : Herewith
Page 3

14. U.S. Patent No. 5,619,709 to Caid et al., issued April 1997;
15. U.S. Patent No. 5,634,087 to Mammone et al., issued May 1997;
16. U.S. Patent No. 5,649,065 to Lo et al., issued July 1997;
17. U.S. Patent No. 5,687,082 to Rizzoni, issued November 11, 1997;
18. U.S. Patent No. 5,734,796 to Pao, issued March 31, 1998;
19. U.S. Patent No. 5,748,508 to Baleneau, issued May 1998;
20. U.S. Patent No. 5,754,681 to Watanabe et al., issued May 19, 1998;
21. U.S. Patent No. 5,794,178 to Caid et al., issued August 1998;
22. U.S. Patent No. 5,812,992 to De Vries, issued September 22, 1998;
23. U.S. Patent No. 5,963,929 to Lo, issued October 1999;
24. U.S. Patent No. 5,967,995 to Shusterman et al., issued October 19, 1999;
25. U.S. Patent No. 6,134,537 to Pao et al., issued October 17, 2000;

Applicants: Yoh-Han Pao and Zhuo Meng
Serial No.: Not Yet Known (Continuation of U.S. Serial No. 09/562,777)
Filed : Herewith
Page 4

26. European Patent Application Publication No. EP 0 510 632 A2 (ISO), issued April 1992;
27. International Patent Application Publication No. WO 93/20530 (Hollatz et al.), issued March 1993;
28. Fukunaga, K. and Koontz, W.L.G., (1970) "Application of the Karhunen-Loeve expansion to feature selection and ordering", IEEE Transactions on Computers, Vol. 19:311-318;
29. Kohonen, T., (1982) "Self-organized formation of topologically correct feature maps", Biological Cybernetics, Vol. 43:59-69;
30. Oja, E., (1982) "A simplified neuron model as a principal component analyzer", Journal of Mathematics and Biology, Vol. 15:267-273;
31. Linsker, R., (1986) "From basic network principles to neural architecture", Proceedings of the National Academy of Science, USA, Vol. 83:7508-7512, 8390-8394, 8779-8783;
32. Carpenter, G.A. and Grossberg, S., (1987), "ART2: Self-organization of stable category recognition codes for analog input patterns", Applied Optics., Vol. 26:4919-4930;
33. Bourland, H. and Kamp Y., (1988) "Auto-association by multilayer perceptrons and singular value decomposition", Biological Cybernetics, Vol. 59:291-294;

Applicants: Yoh-Han Pao and Zhuo Meng
Serial No.: Not Yet Known (Continuation of U.S. Serial No. 09/562,777)
Filed : Herewith
Page 5

34. Baldi P. and Hornik, K., (1989) "Neural networks and principal component analysis: learning from examples without local minima", *Neural Networks*, Vol. 2:53-58;
35. Sanger, T.D., (1989) "Optimal Unsupervised learning in a single-layer linear feedforward neural network", *Neural Networks*, Vol. 2:459-465;
36. Kramer, M., (1991) "Nonlinear principal component analysis using autoassociative feedforward neural networks", *AICHE*, Vol. 37:233-243;
37. Malki, H.A. and Moghaddamjoo, A., (1991) "Using the Karhunen-Loeve transformation in the back-propagation training algorithm Neural Networks", *IEEE Transactions*, Vol. 21:162-165;
38. Oja, E., (1991) "Data compression, feature extraction and autoassociation feedforward neural networks", In *Artificial Neural Networks*, eds. T. Kohonen, O. Simula, and J. Kangas, Elsevier Science Amsterdam, 737-745;
39. Abbas, H.M. and Fahmy, M.M., (1992) "A neural model for adaptive Karhunen Loeve transformation (KLT)", *Neural Networks*, IJCNN, Vol. 2:975-980;
40. Abbas, H.M. and Fahmy, M.M., (1993) "Neural model for Karhunen-Loeve transform with application to adaptive image

Applicants: Yoh-Han Pao and Zhuo Meng
Serial No.: Not Yet Known (Continuation of U.S. Serial No. 09/562,777)
Filed : Herewith
Page 6

compression", Communications, Speech and Vision, IEE Proceedings I, Vol. 140(2);

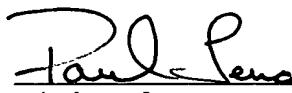
41. Jianchang Mao and Anil K. Jain, (1995) "Artificial Neural Networks for Feature Extraction and Multivariate Data Projection", IEEE Transactions on Neural Networks, Vol. 6(2);
42. Kohonen, T., (1995) "Self-Organizing Maps", Springer-Verlag, Berlin.
43. Chatterjee, C. and Roychowdhury, V., (1996) "Self-organizing neural networks for class-separability features Neural Networks", IEEE International Conference, Vol. 3(3-6):1445-1450;
44. Tayel, M., Shalaby, H. and Saleh, H., (1996) "Winner-take-all neural network for visual handwritten character recognition", NRSC, 239-249;
45. Chatterjee, C. and Roychowdhury, V.P., (1997) "On self-organizing algorithms and networks for class-separability features Neural Networks", IEEE International Transactions, Vol. 83:663-678; and
46. Yoh-Han Pao and Chan-Yun Shen, (1997) "Visualization of Pattern Data Through Learning of Non-Linear Variance-Conserving Dimension-Reduction Mapping", Pattern Recognition, Vol. 30(10):1705-1717.

Applicants: Yoh-Han Pao and Zhuo Meng
Serial No.: Not Yet Known (Continuation of U.S. Serial No. 09/562,777)
Filed : Herewith
Page 7

Copies of references 1-46 listed above and on Form PTO-1449 have previously been either submitted to, or cited by, the U.S. Patent and Trademark Office in prior applications U.S. Serial Nos. 09/562,777, 08/991,031 and/or 08/536,059. The subject application relies upon said prior applications for an earlier filing date under 35 U.S.C. §120. Accordingly, in compliance with 37 C.F.R. §1.98(d) copies of references 1-46 are not being supplied herewith.

No fee, other than the enclosed \$710.00 filing fee for the above-identified application filed concurrently herewith, is deemed necessary in connection with the filing of this Information Disclosure Statement. However, if any additional fee is required, authorization is hereby given to charge the amount of any such fee to Deposit Account No. 03-3125.

Respectfully submitted,



Richard F. Jaworski
Registration No. 33,515
Paul Teng
Registration No. 40,837
Attorneys for Applicants
Cooper & Dunham LLP
1185 Avenue of the Americas
New York, New York 10036
(212) 278-0400